Center for Research on Social Behavior

University of Delaware

Newark, Delaware

An Analysis of Responsiveness Between Nations

by

Dean G. Pruitt

Technical Report No. 5

December 1, 1961

to the

Office of Naval Research
Washington, D.C.

for

Contract Number Nonr-2285 (02)

An Analysis of Responsiveness Between Nations[1]

Dean G. Pruitt

Center for Research on Social Behavior

University of Delaware

Introduction

In their analysis of the conditions which lead to the integration of nations into larger political communities, Karl Deutsch, et al. (3) lay great stress on the concept responsiveness. As they define it, responsiveness is "the ability (of one political unit) to give messages from other political units adequate weight in the making of their own decisions, to perceive the needs of the populations and elites of these other units, and to respond to them quickly and adequately in terms of political or economic action" (p.40). According to these authors, before political units will ally or amalgamate, each must have shown considerable responsiveness to the other. Concomitantly, the failure of responsiveness

---

[1]The data reported in this manuscript were gathered while the author was a Public Health Service Postdoctoral Research Fellow in the Program of Graduate Training and Research in International Relations at Northwestern University. The author wishes to thank the codirectors of that program, Richard C. Snyder and Harold Guetzkow, for their assistance in this project. Preparation of this manuscript was supported by funds from Contract Nonr - 2285 (02), Office of Naval Research.

To be published in the Journal of Conflict Resolution, March 1962

between sections of an already formed political community will often result in its disintegration.

Similar notions are encountered in the psychological analysis of interpersonal relations. To be accepted and rewarded by the people around him, it is usually necessary for a man to be responsive to the needs of these people. He who lives only for himself tends to become a social isolate .... and in the long run may entirely defeat his own interests.

In an interview study of the Department of State, the author of the present article found considerable evidence of the existence of policies of responsiveness toward friendly nations. These policies are not universally shared throughout the government, but represent the viewpoint of one kind of officer who has a right to attend and to present his views at all interagency conferences which deal with the affairs of these nations. In the first part of the present article, some of the findings which lead to these conclusions will be summarized.

The second part of the article will be devoted to a descriptive model of responsiveness which the author has devised to help explain these findings. This model draws both on the Theory of Games and on some recent contributions to social psychology, the author's own discipline. In the third part of the article, some conclusions are drawn from the model of responsiveness, including implications for the theory of negotiation.

A Study of the Department of State

Purpose

The purpose of the study was to gain a more thorough understanding of the process by which decisions are made concerning United States foreign policy.

Method

In June, 1960, the author interviewed fourteen of the sixteen members of the "XYZ" Office in one of the geographic bureaus of the Department of State[2], an office which handles United States relations with a group of friendly nations. Each officer was asked to list the last four "problems" on which he had been working. From this list the interviewer picked the two which were closest to completion and which the informant seemed to have the most information about, and then asked a standardized series of questions on each case, lasting about half an hour. The questions dealt mainly with the organization of problem solving .... who was contacted, for what reason. But in many cases, the answers also contained information on the content of the problems and related policies. Analysis consisted of a detailed comparison of the twenty-eight cases and a search for trends.

---

[2]For a thorough discussion of the organization of the Department of State, see (5).

Results

Only a small portion of the results will be presented here, dealing with the role of the XYZ officer and conflict between the XYZ Office and other agencies. A more detailed analysis of the data will eventually be published.

Role of the XYZ officer. The XYZ Office has responsibility for handling relations with a specific set of countries. Each member of the office is assigned to one or more of these countries. The role of a typical officer can be summarized under three headings:

(1) Liaison Work. The job of a liaison officer is to carry messages between two groups and to interpret each group to the other. The XYZ officer can be thought of as a liaison between the rest of the United States Government, on the one hand, and two other groups, on the other: (a) the government of the country to which he is assigned and (b) the United States Embassy in the capital of that country. In his capacity as a liaison officer, he handles a good deal of the correspondence and is aware of most of the rest. In addition, he is often in direct contact with representatives of other government agencies, on the one hand, and members of the United States Embassy and officers in the foreign embassy in Washington, on the other. Each side considers him an expert on the other side .... a man who can interpret to his government the motives and circumstances of the country to which he is assigned and can inform the government of the latter about policies and

conditions in the United States.

(2) Participation in problem solving. Problems arise in many ways[3]: a country requests aid or negotiation on tariff reductions, an impending negotiation draws near, the Air Force wants to alter arrangements in an American military base abroad, a Congressman or the Under Secretary needs information on a foreign country. When a problem arises which directly concerns the country to which he is assigned, the XYZ officer will often be asked to take responsibility for seeing that the problem is solved. He will have to contact the interested agencies, arrange for proposed solutions to be drafted and make sure that they are cleared by the right people. When a problem arises which only indirectly concerns the country for which he is responsible, the XYZ officer will usually not coordinate problem solving, but he is supposed to be consulted.

(3) Predicting ahead. In developing his policy recommendations or criticising recommendations developed by others in the government, the officer is supposed to be mainly concerned with the long-range impact which the proposed policy will have on the country for which he is responsible and United States relations with that country. This part of an officer's role puts a heavy responsibility on him, because there may be no

---

[3]A marvelous series of examples of the kinds of problems handled at this level of government appears in (2, p. 172).

one else dealing with the problem who takes this approach.

Interagency conflict. In searching for an agreed solution to a problem, conflicts commonly arise among the agencies of the government. Out of twenty-five cases in which a question was asked about conflict, fourteen involved some sort of disagreement between XYZ officers and representatives of one or more other agencies. The typical nature of the disagreement is quite interesting. Of the eleven cases in which we learned about the nature of the conflict, nine involved disagreements over the extent to which the government should make concessions to another country .... with the XYZ Office always favoring more concessions. Four of these cases involved the Office of the Deputy Coordinator of the Mutual Security (MSC) as the other protagonist, XYZ always arguing for an increase in foreign aid commitments and MSC for no increase. Three involved departments which concern themselves with the needs of American industry (the Department of Agriculture and the Civil Aeronautics Board): in all cases the argument arose during preparations for negotiation with a foreign country and pitted XYZ, arguing for terms more favorable to the foreign country, against the other agency, arguing for terms more acceptable to American industries. Two involved the Defense Department, which in one case opposed changes in a military installation requested by another country and proposed by XYZ, and in the other held out against XYZ for American instead of foreign control over an adjunct to a military installation being erected on foreign soil.

Analysis of the Findings on Interagency Conflict

How can we explain the apparent finding that when conflicts arise between the XYZ Office and other governmental agencies, the XYZ Office is usually on the side of giving more concessions to another nation while the other agencies want to give fewer concessions?

This could result simply from superior knowledge on the part of the XYZ officer about what is obtainable from a specific negotiation. In negotiation where both sides have something to gain, advocacy of an extreme position may cause the other side to break off bargaining thereby destroying the opportunity which both sides have to improve their welfare. Thus advocacy of a too-extreme position may be self-defeating. With their superior knowledge of what other countries will accept, the XYZ officers may be continually in the position of urging other agencies to reduce their demands so that the negotiations will succeed and the United States can, figuratively, gain half a loaf instead of no loaf at all. In two of the interagency conflicts, this analysis appeared to be correct .... but in others it was obviously incorrect since the conflict was over the question of whether to make a concession to another country in negotiations which offered nothing tangible to the United States in return .... e.g., in negotiations about the size of foreign aid.

Another possible explanation, and the one to which the author leans, is in terms of responsiveness .... that members

of the XYZ Office are more concerned about satisfying the needs and wishes of the countries under their care than are the members of other governmental agencies. A number of comments made by the respondents supported this analysis.

But why should XYZ officers be more responsive to the needs of the countries to which they are assigned than are officers from other agencies? We might explain this in terms of the liaison role of the XYZ officer. Homans (8) has proposed that the more often one person comes in contact with another, the more attractive will the other become for him; and a number of studies (e.g.,10) have shown that one person is more likely to adopt the attitudes of another, the more attractive the other person is. This line of reasoning implies that XYZ officers are more responsive to the needs of the countries to which they are assigned because they are more often in contact with representatives of these countries. However, this does not appear to be an adequate explanation, in the light of other findings from the interviews. The effect which contact has on attitudes is based on psychological mechanisms which function at a relatively unconscious level. On the other hand, it is clear from the interviews that responsiveness is a conscious policy of the XYZ Office which is imposed on all members of the office from the beginning of their tours of duty. To paraphrase one of the co-directors of the office, "One of the basic policies of the XYZ Office is to prevent other agencies from irritating too much the countries

under our wing, as for instance to stop the Agriculture Department from undercutting the (blank) commodity market in (blank)."

A more adequate explanation of the responsiveness shown by XYZ officers traces it to their role of predicting the long-range impact of proposed policies on United States relations with the countries to which they are assigned. A number of comments suggest that the officers of XYZ interpret their role as follows: Since the nations assigned to XYZ are sovereign nations which the United States cannot order around, the United States must keep their good will in order to gain cooperation from them on important issues. By being responsive to these nations in the present and making relatively minor sacrifices of short-run interest, the United States can succeed in building and maintaining the sort of good will which will pay off in the longer term. A number of quotes from the interview notes serve to illustrate this point: "If 'no' had been flatly said, there would have been a danger of deterioration of relations." "We have to get permission for whatever we're going to do in (blank) so we're interested in keeping the (blank) happy." "If the relations with (blank) were to deteriorate, we might have to withdraw from our bases there."

The relative lack of responsiveness to other countries shown by agencies other than XYZ may reflect different kinds of long-range concern on the part of these agencies; e.g.,

concern with the welfare of the American businessman or farmer, or with the success of certain military projects. Unless the question of United States relations with other countries is brought to the attention of these agencies forcefully and persuasively by State Department officials, they will not give it much consideration.

This explanation of interagency conflict is plausible and receives support from the interview results, but it is not at all complete. For one thing, the concept "responsiveness" has not been clearly defined. In addition, although the responsiveness of State Department officials has been traced to a desire to build good will with other nations, no attempt has been made to explain the differences in responsiveness which a nation like the United States exhibits to different countries. The next section is devoted to a theoretical discussion which may shed some light on these and related questions.

A Model of Responsiveness

The concepts upon which this model is based derive from two sources: the Theory of Games (e.g.,9) and some recent thinking in the area of social psychology by Thibaut and Kelley (12). Although there is some borrowing from the Theory of Games, the author makes no pretense of having achieved the rigor of a typical contribution to the Theory of Games. There are no axioms and few careful derivations.

Rather an attempt is made to point up potentially important variables and to propose in general terms the direction of their influence. It is the author's hope that the results will prove sufficiently stimulating to produce empirical research by social scientists and new axiom systems by game theorists.

The model is based on an analysis of the dyad, i.e., the relationship between two actors or players, each assumed to be a psychological unit. The model is supposed to apply equally to relationships between individual people, in which case the assumption of psychological unity is realistic, and between nations, in which case the assumption of psychological unity is only a convenient fiction.

By making the nation our unit of analysis in applying the model to international relations we may appear to be forsaking the point made earlier about the differences in responsiveness between different parts of the government. This is not intended. Rather, it is hoped that the analysis will provide clues to the behavior of those governmental officers who are in closest day-by-day contact with the relationship between their nation and the other member of the dyad, e.g., the members of the XYZ Office. Part of the analysis will be illustrated by further findings in the study discussed above.

Meaning and Importance of Responsiveness

The idea of responsiveness gains greater precision if it is related to the process through which each player in a dyad

makes decisions that affect the welfare of the other player. Examples of such decisions in the relationship between the United States and another country, C, might be a United States decision about whether to grant a request for aid from C, a decision by the government of C about the next offer to be made in tariff negotiations with the United States, or a decision by the United States government as a whole about whether to approve an import policy suggested by the Department of Agriculture which could undermine a commodity market in C.

In decision making there are always at least two alternatives and often many more. Following utility theory (9) we assert that a player will choose that alternative which appears to have the highest utility (subjective value). Responsiveness is assumed to be a measurable variable, β, which enters into a player's calculation of the utility of any alternative which can have an effect on the welfare of the other player in the dyad. More specifically, Player 1's utility, $U_1(X)$, of any such alternative, X, can be computed by adding together the selfish advantage, $A_1(X)$, which he sees in the alternative and his perception of the selfish advantage of the alternative for Player 2, $A_2(X)$, multiplied by his responsiveness toward Player 2, β_{12}. This computation is expressed in Equation (1).

$$U_1(X) = A_1(X) + \beta_{12}A_2(X) \qquad (1)$$

Two conclusions follow from this formulation, the derivations of which are presented in the Appendix:

(a) As responsiveness increases there is a concomitant willingness to make more costly concessions to the other player.

(b) In negotiation, the more responsive a player is, the less firm he will be in sticking to his proposals when they have been rejected by the other player.

It should be noted that this formulation of responsiveness implies that each player will seek out information concerning the advantage of an alternative to the other player. In addition, it follows from Equation (1) that if Player 1's responsiveness toward Player 2 is positive ($\beta_{12} > 0$), Player 1 will be more interested in an alternative the greater advantage of that alternative to Player 2. Both conclusions are supported by material contained in the interview with one of the co-directors of the XYZ Office. The following is a quote from the notes on this interview, paraphrasing the words of the respondent (relevant sections are in italics):

> "When another country makes a proposal, we consider whether it's reasonable. If we decide that it is reasonable, we present it to the other agencies involved. In addition, we try to evaluate the strength of feeling of the other nation and what effect honoring their note will have on our general goals. If we feel that it is

unreasonable or unwise or that the country is not really terribly interested in it, we will pass it on with just a comment that the (officials of blank) have asked us to send this over. But if it seems like a good thing to support, XYZ may push it strongly with the other agencies."

Importance of the "Larger Game"

The term game has often been used to describe interaction between two players on a single issue, e.g., negotiation about a single tariff question. But in most dyads, many such games will take place, and some conception is needed of the broader picture. The sum total of all of the individual games played by two players can be thought of as a larger game and the individual games within it as subgames. In such a larger game, the alternatives available to the players are reward-cost positions (to be defined shortly). And the strategies available to each player are the various levels of responsiveness which he may adopt toward the other player.

In defining "reward-cost position", we follow Thibaut and Kelley (12), who suggest that each player in a dyad has a subjective evaluation of his relationship with the other player which is based on the values of the "sampled and anticipated outcomes" from the relationship. This subjective evaluation is called his reward-cost position. The more rewarding are the sampled and anticipated outcomes of the

relationship, the higher his reward-cost position; the more costly these outcomes, the lower his reward-cost position. For the purposes of the present paper, the reward-cost positions of two players in a dyad will be represented by a point in two-dimensional space, as shown in Figure 1. Such a space will be referred to as a joint reward-cost space. Within this space lie all of the alternatives which make up the larger game between the two players. Five possible outcomes of the larger game are shown by points A to E in Figure 1.

.....

Place Figure 1 about here

.....

While mentioning a number of rewards and costs which may occur in a relationship between two players, Thibaut and Kelley are vague about how these rewards and costs combine to produce a player's reward-cost position. Since the reward-cost position is assumed to be a subjective value, experienced by the player if he is a person or by the individuals composing the player if the player is a group or nation, this question is an empirical one .... and in the absence of evidence, an educated guess is all that can be relied on. The present author guesses that Player 1's reward-cost position is an algebraic sum of all of the rewards and costs experienced and expected in the subgames which make up his relationship with Player 2, each reward and cost being weighted by its importance to Player 1.

As to the importance weightings, the author guesses three things: (a) that experiences proximal in time are more important than experiences distal in time, (b) that past and future experiences are of different importance, and (c) that there are differences between players in the relative importance of proximal vs. distal and past vs. future experiences. As an example of (c), it seems reasonable to suppose that future experiences will be more heavily weighted in comparison to past experiences by less sentimental, more pragmatic players and that nations will generally be less sentimental and more pragmatic than individual people.

The point has already been made, in a general way, that responsiveness is a strategy in the larger game. However, a fuller treatment of this idea will be delayed until a related point can be discussed: that the reward-cost position of each player is a monotonic increasing function of the responsiveness of the other, i.e., that the more responsive one player is, the higher will be the reward-cost position of the other. This point becomes obvious when it is recalled that increased responsiveness implies increased willingness to satisfy the needs of the other player. The rate at which this function rises is a less obvious matter. Thibaut and Kelley (12) imply that it is dependent on the structure of the subgames: the greater the opportunity Player 1 has to be responsive to Player 2 and the lower the cost of being responsive, the higher will be the Player 2's reward-cost position for any given level

of responsiveness on the part of Player 1. To be more concrete in the realm of interpersonal relations, there may be many opportunities for me to provide rewards to my boss at low cost to myself but there will be few such opportunities for me to provide rewards to the President of India and what opportunities there are will be rather costly (in travel expense, time, etc.). Although I may feel the same level of responsiveness to both men, I will be actually more rewarding to my boss than to the President of India. Similar examples may be devised in the arena of international relations.

Impact of the Larger Game on Responsiveness

A player's responsiveness is assumed to be determined by two aspects of the larger game: (a) his reward-cost position and (b) the fate control of the other player, i.e., the capacity of the other player to move him to a higher or lower reward-cost position.

Impact of reward-cost position on responsiveness. Earlier it was asserted that a player's reward-cost position was a function of the responsiveness of the other player. Now we assert a related proposition, that a player's level of responsiveness will usually be a monotonic increasing function of his reward-cost position, i.e., the more he gets out of a relationship, the more responsive he will be. There are two reasons for this, one rational (future oriented), the other sentimental (past oriented):

(a) Trading (a rational consideration). Most people and certainly all nations recognize in some way that friendship is in large part a matter of trading favors. With this recognition go two rational attitudes: that the cost to us of being responsive should be no greater than the rewards we get, and that the other side will probably provide fewer rewards to us if we become less responsive to him. From the first attitude it follows that we will reduce our responsiveness if the other side provides fewer rewards to us, so as to make our costs commensurate with our gains. From the second attitude it follows that we will retain or increase our level of responsiveness if the other side continues to reward us at the same rate or increases his reward to us, so as to prevent him from becoming less responsive. This latter point is reflected in the statements by XYZ officers to the effect that a reduction in American responsiveness to other nations would lead to a deterioration of relations which could be costly to the United States.

(b) Debt (a sentimental consideration). A concept of debt may also be needed in some cases to explain the dependence of responsiveness on reward-cost position. When one player provides rewards to another, the latter may feel in some way obligated to provide a commensurate level of rewards in return, whether or not this leads to practical results in the future. Conversely, if one player provides costs to the other, the latter may feel obligated to return in kind regardless of the additional cost of so doing. Gouldner (6) takes the position

that such feelings of obligation are very prevalent within society and provide a kind of "moral cement" without which people would feel so tempted to take short run advantage of one another that society would disintegrate. Such feelings of obligation undoubtedly have some impact on international relations as well, although one would suspect that they are less important in that arena since the process through which foreign policy is developed within government is usually more rational (i.e., future oriented) than the process through which individuals decide how to behave toward their friends and enemies. At times, of course, public sentiment, based on consideration of positive or negative debt owed to or owed by another nation, may impede the freedom of action of the rational decision maker in the government. Concepts of debt were not voiced in the XYZ interviews, which may indicate the absence of this motive but may also have resulted from the natural tendency which people have to explain their actions in rational terms.

It has now been asserted <u>both</u> that the reward-cost position of one player is a monotonic increasing function of the responsiveness of the other <u>and</u> that the responsiveness of the other player is usually a monotonic increasing function of his own reward-cost position. Combining these two assertions, it is reasonable to conclude that the reward-cost position of either player is usually a monotonic increasing function of the reward-cost position of the other player. This suggests

that the final outcome of the larger game is determined by a Richardson Process in the broader meaning of the term used by Boulding (1), a meaning which has been derived from Richardson's analysis of arms races (11). A Richardson Process which might determine the position of two players is their joint reward-cost space is shown in Figure 2. The shapes of the curves in Figure 2 (decelerating growth curves) ensure that the position of the two players is a stable equilibrium ..... i.e., that the location of their joint reward-cost position will not change radically. Observation of international affairs suggests that such stable equilibria usually exist in relations between nations, at least in the short run. Therefore, we may reason that decelerating growth curves are most appropriate for representing international relations.

.....

Place Figure 2 about here

.....

If we take into consideration only the principles of "trading" and "debt", as described above, it seems reasonable to suppose that most relationships between players will lie close to the diagonal in the reward-cost space .... since neither player will be willing to give a great deal unless he has received or expects to receive a great deal in return. Thus, in Figure 1, we would expect to find more dyadic relationships at A, C and E than at B and D. However, the factors to be discussed next may alter the Richardson curves so that positions such as B and D are attained.

Impact on responsiveness of the fate control which the other player appears to have. Responsiveness may also be part of a strategy employed by one player in an attempt to get the other to exercise his fate control in a beneficial manner.

Following Thibaut and Kelley (12), a player's "fate control" is defined as his ability to move the other player's reward-cost position to a new position. The greater the range of values through which he can move the other, the greater his fate control over the other. Fate control can be positive or negative. A player has positive fate control to the extent that he can improve the other player's welfare; he has negative fate control to the extent that he can worsen the other's welfare. He may have both kinds of fate control simultaneously.

The more fate control Player 2 has over Player 1 and the more likely Player 2 seems to employ this fate control (i.e., actually to move Player 1's reward-cost position), the more concerned Player 1 will be. This concern may become translated into a desire for increased good will, leading Player 1 to attempt to increase Player 2's responsiveness. One strategy for doing this is for Player 1 to increase his own responsiveness for any given reward-cost position in the hope that Player 2 will follow suit.

Two kinds of examples of this sort of reasoning were found in the XYZ interviews. (a) Several of the problems concerned more important countries whose governments have a number of agreements with the United States (e.g., agreements on trade,

political consultation, military assistance). The XYZ Office seemed especially responsive to these countries. The reason usually given for pushing their proposals was that it would be harmful to American interests if they broke these agreements. Such responsiveness can be said to derive from the possession by these countries of a lot of negative fate control over the United States. (b) Others of the problems concerned less important countries where there seemed to be danger of anti-American elements taking over the government and renouncing what agreements there were with the United States. Again the needs of these countries seemed to be given special attention by the XYZ Office. Such responsiveness can be said to derive from the XYZ officials' belief that the negative fate control possessed by these countries was especially likely to be employed.

It also seems reasonable to suppose that the more fate control Player 2 has over Player 1 and the more willing Player 2 is to use his fate control, the lower will be Player 2's responsiveness toward Player 1 for any given reward-cost position .... Player 2 reasoning that Player 1 is less likely to decrease his responsiveness since he will be more afraid of alienating Player 2.

In terms of the Richardson model, Player 2's possession and willingness to use fate control will cause the average slope of his responsiveness curve to decrease while causing the average slope of the responsivness curve of Player 1 to increase.

An example of such movement is shown by the dotted lines in Figure 2. The result of such movement will usually be a higher reward-cost position for Player 2, as shown in the diagram; but both may end up higher or both lower than the previous position. This analysis gives us an adequate explanation for the location of points such as B and D in Figure 1. Such grossly inequible divisions of the joint reward-cost space can result from unequal fate control on the part of the two players.

An interesting problem arises when both players have considerable fate control over the other. Thibaut and Kelley imply that the result is a draw with neither side changing its responsiveness toward the other because, "Power is not usable to the degree that its use penalizes the possessor, either directly or because of counter power held by the other person" (p. 107; italics added). Observation of the international scene suggests that the case is indeterminate. In some instances, where both sides have considerable military capability (e.g., the United States and the Soviet Union), responsiveness is often very low on both sides .... perhaps because each sees the other as an "enemy". In other instances, two nations who have control of one another's welfare because of the existence of many cooperative arrangements between them (e.g., Britain and Canada) may be especially responsive toward one another. In such dyads each nation may fear that the other will act 'irrationally' and punish the first for lack of

responsiveness even at the expense of incurring punishment himself; the greater the fate control on both sides, the more dangerous this eventuality may seem, even if it is relatively unlikely.

The comparison between these two kinds of instances suggests that we must distinguish between types of fate control in further development of the model.

Conclusions

Implications for the Theory of Power

The model of responsiveness just discussed may help clarify the related concept power. "Power" has been variously defined, but two favorites seem to be (a) the ability of one party to influence another and (b) the ability of one party to manipulate another's outcomes. Many writers use the term in both senses, which can lead to confusion.

In the first sense of the word, one party's responsiveness can be seen as a source of "power" to the other, because it lets the other influence him. Responsiveness has broader implications than "power" in this sense, because the responsive party may try to look out for the supposed welfare of the other party, even when the other party makes no attempt to influence the responsive party. In the second sense, "power" is the same thing as fate control. Many writers are vague about how power in this sense is converted to influence; the reader is often left with the mistaken idea that the powerful party must issue threats or promises to be influential. The analysis presented

in this paper indicates that fate control may be converted to influence without the mediation of threats and promises, simply because the less "powerful" party feels in need of good will from the more "powerful" party and, therefore, becomes more responsive toward him.

Implications for the Theory of Negotiation

By negotiation is meant a single subgame between two parties (players) in which each makes a series of proposals for the resolution of some issue between them.

Four implications for the theory of negotiation have already been more or less explicitly drawn.

(a) The more responsive a negotiator, the more willing he will be to make costly concessions to the other side. This implies in turn that a more responsive negotiator will usually have a fall-back position which is less favorable to himself.

(b) The more responsive a negotiator, the less firmly he will adhere to his own proposals when they have been rejected by the other side. This hypothesis is derived in the Appendix.

(c) Each party will usually attempt to discover how advantageous each alternative is to the other side, so as to compute his own utility for the alternative.

(d) If one side is positively responsive toward the other, that side will be more favorable toward any alternative the more advantageous that alternative seems to the other side. Conversely if one side is negatively responsive toward the other, that side will be less favorable toward any alternative the more

advantageous that alternative seems to the other side.

Four other implications can be derived from the discussion.

(e) If Party 1 is positively responsive toward Party 2, the latter will try to point out how advantageous his proposals are to himself (to Side 2), so as to elicit the sympathy of Side 1. Conversely, if Side 1 is negatively responsive toward Side 2, the latter will try to point out how little he can gain from the alternatives he is proposing. This implication is derived from implication (d).

(f) The assumption (b) that responsiveness causes greater willingness to abandon proposals that are rejected by the other party implies that negotiations will procede more rapidly and with less conflict the more responsive are the negotiators to one another. The only case in which this does not follow is where both sides are so responsive that each insists on an alternative which is advantageous to the other. Such cases do not seem to arise often in international affairs.

(g) When one side's fate control causes the other to become more responsive, the first side need rely less on naked threats or promises to get what he wants. This in turn may cause the negotiation to procede more rapidly, with less conflict, and with less chance of failure .... because most people and nations find naked threats and promises degrading and are likely to balk if they are injected into negotiation.

(h) When two negotiators are responsive toward one

another in a series of negotiations,both are likely to attain high reward-cost positions in the long run. This follows because each will bow to the other in cases where the other has much to be gained or lost, knowing that he is building up credit such that the other will do the same for him. Without mutual responsiveness each party will tend to insist that he gain just as much as the other in the agreement .... that an equal trade of concessions be found at once, in the present negotiation (subgame). An alternative which permits equal gain may be impossible to find or may provide little advantage to either side .... thus causing both sides to suffer.

Integrative Summary

In the theoretical part of this paper, international relations are seen as a special case of "inter-actor relations," i.e., relations between social units ("actors") at any level. The relationship between two actors can be treated as a larger game, consisting of many individual subgames, an example of the latter being negotiation on a single issue.

One aspect of a player's overall strategy in this larger game is his level of responsiveness .... i.e., the degree to which he considers the needs and wishes of the other player in deciding among alternative courses of action in a subgame. In choosing his level of responsiveness, each player will be guided in part by his reward-cost position in the larger game, i.e, his gains minus his losses appropriately weighted. His level of

PAGES 28, 29, 30

ARE

MISSING

IN

ORIGINAL

DOCUMENT

APPENDIX
(cont'd)

Harsanyi (7), basing his model on the expected utility analysis of rational decision making, proposes that Player 1 will give up his own last proposal $\underline{X}_1$ and accept his opponent's last proposal $\underline{X}_2$ if

$$\underline{p}_{12} > \frac{\underline{U}_1(\underline{X}_1) - \underline{U}_1(\underline{X}_2)}{\underline{U}_1(\underline{X}_1) - \underline{U}_1(\underline{C})}$$

where $\underline{p}_{12}$ is the probability as seen by Player 1 that Player 2 will firmly stick to his last offer $\underline{X}_2$, and $\underline{C}$ is the alternative of failing to agree.

Substituting from Formula (1), we obtain

$$\underline{p}_{12} > \frac{\underline{A}_1(\underline{X}_1) - \underline{A}_1(\underline{X}_2) + \underline{\beta}_{12}\left[\underline{A}_2(\underline{X}_1) - \underline{A}_2(\underline{X}_2)\right]}{\underline{A}_1(\underline{X}_1) - \underline{A}_1(\underline{C}) + \underline{\beta}_{12}\left[\underline{A}_2(\underline{X}_1) - \underline{A}_2(\underline{C})\right]}$$

It seems reasonable to assume that $\underline{A}_2(\underline{X}_2) > \underline{A}_2(\underline{C})$, that Player 2 prefers his own proposal to no agreement. Now, assuming that all values in the right hand portion of the inequality remain constant and $\underline{\beta}_{12}$ increases, it will be seen that the numerator of this portion becomes smaller relative to the denominator. It follows that as $\underline{\beta}_{12}$ increases, increasingly small values of $\underline{p}_{12}$ will satisfy the inequality, i.e., that Player 1 will accept Player 2's proposal when there is increasingly less evidence that Player 2 intends to stick to it. This implies that Player 1 will less frequently stick to his own proposal when it has been rejected by Player 2. QED.

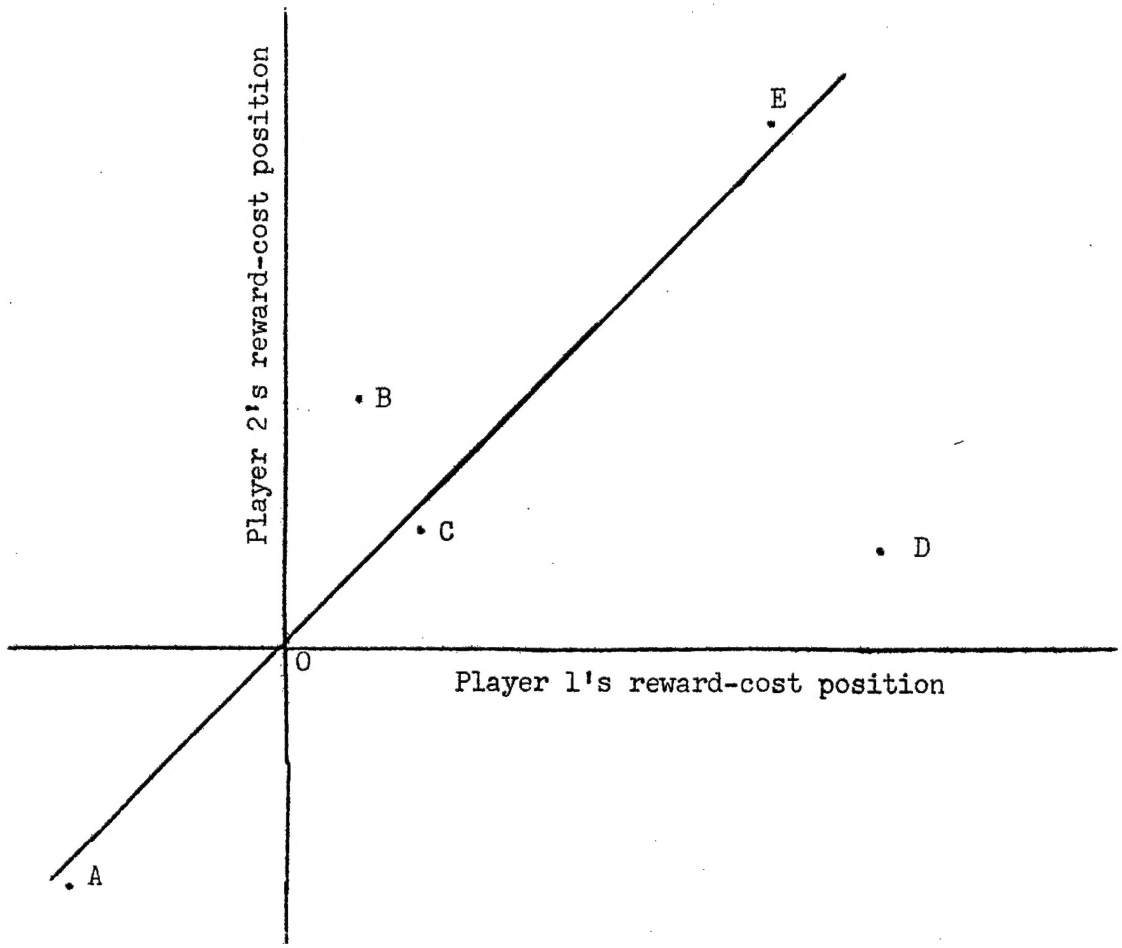

Figure 1. Joint reward-cost space, showing the possible locations of five pairs of players.

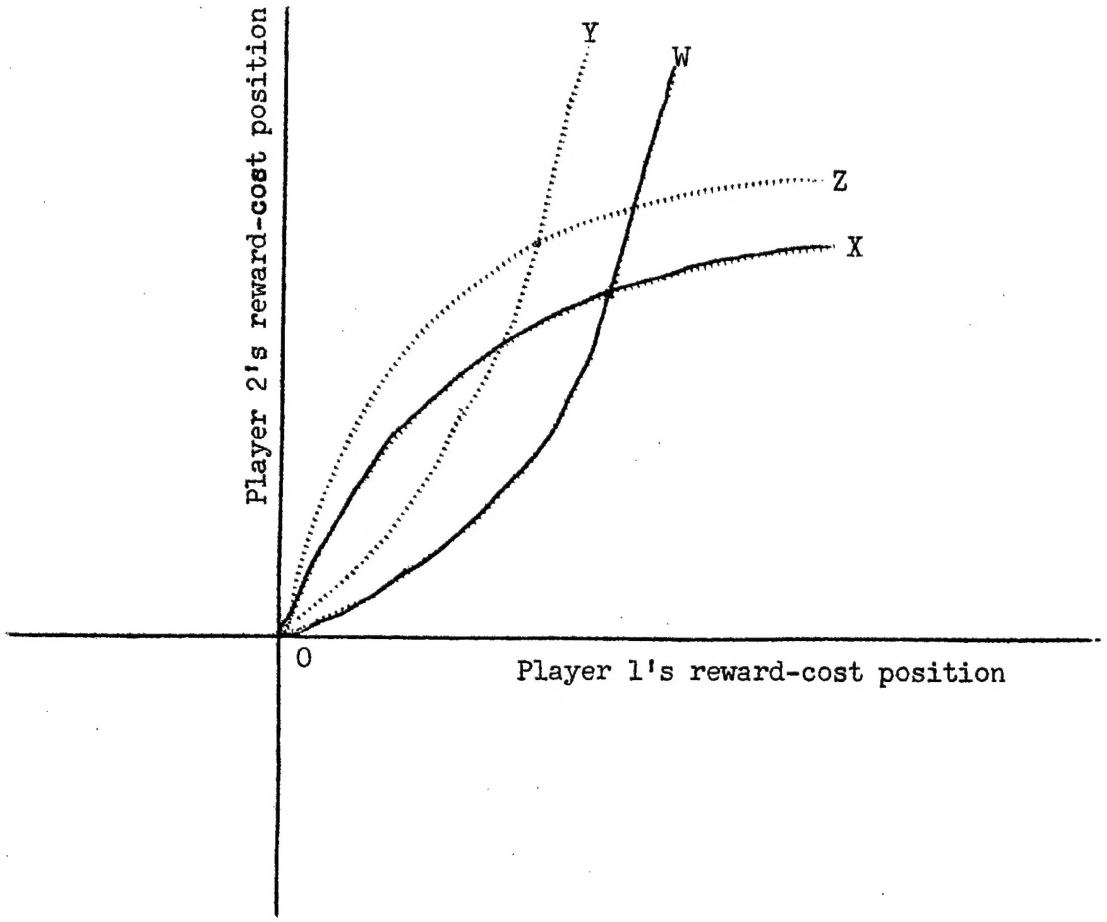

Figure 2. Joint reward-cost space, showing two sets of Richardson curves, each set determining the location of a pair of players. Curves OW and OY give the reward-cost position of Player 1 as a function of the reward-cost position of Player 2. Curves OX and OZ give the reward-cost position of Player 2 as a function of the reward-cost position of Player 1. The intersection of curves OW and OX is the location of two players who have equal fate control over one another. The intersection of curves OY and OZ is the location of two players when Player 2 has a preponderance of fate control over Player 1.